



IFW

Docket No.: 0630-2446PUS1  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Seong-Yeol HYEON

Application No.: 10/551,625

Confirmation No.: N/A

Filed: September 29, 2005

Art Unit: N/A

For: RECIPROCATING COMPRESSOR

Examiner: Not Yet Assigned

**L E T T E R**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Subsequent to the filing of the above-identified application on September 29, 2005, attached hereto is an English translation of the International Preliminary Examination Report (Form PCT/IPEA/409) that should be made of record in the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Dated: May 2, 2006

Respectfully submitted,

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Attachment(s)

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:  
PARK Jang-Won  
Jewoo Bldg. 5th Floor, 200,  
Nonhyun-Dong, Gangnam-Gu  
135-010 Seoul  
Republic of Korea

## PCT

### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty) (PCT Rule 71.1)

Date of mailing  
(day/month/year) 29 March 2006 (29.03.2006)

Applicant's or agent's file reference

PA/LGE/03926

#### IMPORTANT NOTIFICATION

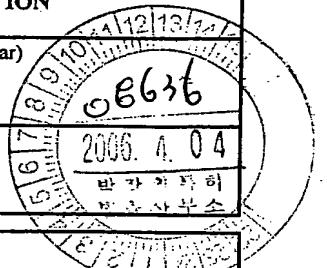
International application No.  
PCT/KR 2003/002054

International filing date (day/month/year)  
6 October 2003 (06.10.2003)

Priority Date (day/month/year)

Applicant

LG ELECTRONICS INC.



1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

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A-1200 Vienna/Austria  
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Authorized officer

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INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)  
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Applicant's or agent's file reference <b>PA/LGE/03926</b>	<b>IMPORTANT NOTIFICATION</b>	
International application No. <b>PCT/KR 2003/002054</b>	International filing date (day/month/year) <b>6 October 2003 (06.10.2003)</b>	Priority Date (day/month/year)
Applicant <b>LG ELECTRONICS INC.</b>		

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# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PA/LGE/03926	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/KR 2003/002054	International filing date (day/month/year) 6 October 2003 (06.10.2003)	Priority Date (day/month/year)
International Patent Classification (IPC) or national classification and IPC <b>IPC<sup>8</sup>: F04B 35/04 (2006.01); F04B 17/04 (2006.01)</b>		
<b>Applicant</b> <b>LG ELECTRONICS INC.</b>		

<ol style="list-style-type: none"> <li>1. This international preliminary examination report has been prepared by this International Preliminary Examination Authority and is transmitted to the applicant according to Article 36.</li> <li>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</li> </ol> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>
<ol style="list-style-type: none"> <li>3. This report contains indications relating to the following items:           <ul style="list-style-type: none"> <li>I. <input checked="" type="checkbox"/> Basis of the opinion</li> <li>II. <input type="checkbox"/> Priority</li> <li>III. <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV. <input type="checkbox"/> Lack of unity of invention</li> <li>V. <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI. <input type="checkbox"/> Certain documents cited</li> <li>VII. <input type="checkbox"/> Certain defects in the international application</li> <li>VIII. <input type="checkbox"/> Certain observations on the international application</li> </ul> </li> </ol>

Date of submission of the demand <b>22 April 2005 (22.04.2005)</b>	Date of completion of this report <b>8 March 2006 (08.03.2006)</b>
Name and mailing address of the IPEA/AT Austrian Patent Office Dresdner Straße 87 A-1200 Vienna Facsimile No. 1/53424/200	Authorized officer <b>RIEDER W.</b> Telephone No. 1/53424/366

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR 2003/002054

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed the description:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the claims:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, as amended (together with any statement) under Article 19

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the drawings:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the sequence listing part of the description:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in printed form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheets/fig. \_\_\_\_\_5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as „originally filed“ and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/KR 2003/002054

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)

Claims 2, 5-16

YES

Claims 1, 3, 4

NO

Inventive step (IS)

Claims 2, 5-16

YES

Claims 1, 3, 4

NO

Industrial applicability (IA)

Claims 1-16

YES

Claims ----

NO

## Citations and explanations (Rule 70.7)

The following documents have been cited in the Search Report:

D1: US2001/0043870A1

D2: US2003/0099559A1

D3: US2003/0086796A1

D1 shows a spring supporting structure of a reciprocating compressor. It discloses (using the wording of the present claim 1) a driving unit having an outer stator (see outer stator assembly 4B of Figure 4 of D1) and an inner stator (see inner stator assembly 4A of Figure 4 of D1) disposed at a predetermined air gap therebetween, and a moving member (see magnet frame 10 of Figure 4 of D1) positioned between the outer stator and the inner stator and linearly and reciprocally moved; a compression unit C having a cylinder fixed at an internal circumferential surface of the inner stator, and a piston (see piston 6 of Figure 4 of D1) connected to the moving member and linearly moved in the cylinder; a support unit (see frame 1 of Figure 4 of D1) supporting the compression unit and the driving unit and a resonant spring unit (see inner and outer resonance springs 20A and 20B of Figure 4 of D1) positioned at the rear portion of the driving unit, installed at the support unit (see frame 1 of Figure 4 of D1) and inducing a resonant movement of the piston. Therefore, the present claim 1 is completely anticipated by Figure 4 and paragraphs [0026] to [0031] of D1.

Further, the subject-matter of the present claim 3, namely that the supporting unit comprises a first frame, a second frame and a third frame, which is coupled with the second frame and receiving the resonance spring unit, is also disclosed by D1.

Consequently the present claim 3 is also disclosed by D1.

Therefore, the present claims 1 and 3 are not new and do not involve an inventive step.

D2 (Figures 4 to 9) is also quite similar to the present subject-matter and anticipates the subject-matter of the present claims 1 and 3, too.

D3 (Figure 4 and Paragraphs [0055] to [0080]) shows also all relevant features of the present claims 1, 3 and 4.

However, the subject-matter of the present depending claims 2 and 5 could not retrieve from said documents. Therefore, said claims 2 and 5 and the subclaims 6 to 16 are allowable.

Finally, the subject-matter of claims 1, 3 and 4 are not novel in the sense of Article 33(2) PCT.

However the subject-matter of the residual dependent claims 2 and 5 to 16 are novel (Article 33(2) PCT) and meet the requirements of article 33(3) PCT in respect of inventive step.

Industrial applicability is given.